In the Claims

1.-26. (Canceled)

27. (Currently amended) A method of manufacturing a drug eluting implantable medical device, comprising:

applying a composition to an implantable medical device, the composition comprising a polymer, an active agent and a solvent;

allowing the solvent to evaporate to form a dry coating, the dry coating comprising less than 10% residual fluid content (w/w); and

directing a beam of charged particles to the dry polymeric coating to modify the release rate of the active agent from the coating,

wherein the beam of charged particles has a current density from ~~about~~ 0.001 $\mu A/cm^2$ to ~~about~~ 1 $\mu A/cm^2$, and

wherein the directing a beam of charged particles to the dry polymeric coating causes the coating to have an increased release rate of the active agent from the coating.

28. (Previously presented) The method of Claim 27, wherein the dry coating comprises less than 2% residual fluid content (w/w).

29. (Previously presented) The method of Claim 27, wherein the dry coating comprises less than 1% residual fluid content (w/w).

30. (Original) The method of Claim 27, wherein the polymer is selected from the group consisting of an ethylene vinyl alcohol copolymer, polyurethane, poly(butyl methacrylate), poly(glycolic acid), poly(lactic acid), poly(tetrafluoro ethylene), poly(vinylidene fluoride) and poly(vinylidene fluoride-co-hexafluoropropene).

31. (Original) The method of Claim 27, wherein the active agent is selected from the group consisting of rapamycin, 40-O-(2-hydroxy)ethyl-rapamycin, 40-O-(3-hydroxy)propyl-rapamycin and 40-O-[2-(2-hydroxy)ethoxy]ethyl-rapamycin.

32. (Previously presented) The method of Claim 27, wherein the beam is directed to only a portion of the coating along the length of the medical device.

33. (Previously presented) The method of Claim 27, further comprising forming a barrier layer over the dry coating prior to directing the beam of charged particles, the barrier layer comprising a polymer free from an active agent.

34. (Currently amended) The method of Claim 33, wherein the polymer of the barrier layer comprises a percent crystallinity of about 50% or above, and wherein the barrier layer is capable of substantially preventing diffusion of the active agent from the coating prior to the act of directing the beam of charged particles.

35. (Previously presented) The method of Claim 27, further comprising forming a barrier layer over the dry coating subsequent to directing the beam of charged particles, the barrier layer comprising a polymer free from an active agent.

36. (Original) The method of Claim 27, wherein the act of directing the beam of charged particles to the coating does not reduce the total content of the active agent in the coating.

37. (Original) The method of Claim 27, further comprising masking a portion of the coating prior to directing the beam of charged particles to eliminate or reduce the exposure of charged particles to the portion of the coating covered by the mask.

38. (Currently amended) The method of Claim 37, wherein the device is a stent and wherein the act of masking includes inserting a mandrel into a hollow, longitudinal

body of the stent to mask the inner surface of the stent ~~medical device~~.

39. (Previously presented) The method of Claim 27, further comprising exposing the dry coating to a fluid subsequent to directing the beam of charged particles to the dry coating to remove polymer fragments from the coating to provide hollow channels in the coating.

40. (Original) The method of Claim 39, wherein the fluid is an etchant in an aqueous solution, the etchant selected from the group consisting of HNO_3, NaOH, KOH, HCl, Na_2CO_3, CrO_3, H_2SO_4, $KMnO_4$, NaOCl, and $Na_2B_4O_7$.

41. (Original) The method of Claim 39, wherein the fluid is an organic solvent.

42. (Original) The method of Claim 27, further comprising exposing the dry coating to a temperature equal to or greater than the glass transition temperature of the polymer in the coating subsequent to directing the beam of charged particles to the dry coating of the device to produce an amorphous polymer domain.

43.-48. (Canceled)

49. (New) The method of Claim 27, wherein directing a beam of charged particles comprises directing different charged particle types to the dry polymeric coating.

50. (New) The method of Claim 49, wherein each of the different particles types are directed to the dry polymeric coating simultaneously.

51. (New) The method of Claim 49, wherein the different particles types are directed to the coating sequentially.

52. (New) The method of Claim 27, wherein the energy of the charged particles is between 20 eV and 15 MeV.

53. (New) The method of Claim 27, wherein the beam of charged particles is

directed to the coating at an angle of 20° to 80° to the coating surface.

54. (New) The method of Claim 27, wherein the beams of charged particles is directed to the coating at an angle of 90° to the coating surface.

55. (New) The method of Claim 27, with the provision that the directing the beam of charged particles is not gamma radiation, electron beam, or plasma treatment.

56. (New) The method of Claim 27, wherein the charged particles are selected from the group consisting of helium, oxygen, fluorine, titanium, nitrogen, antimony, uranium, krypton, xenon, gold and neon.

57. (New) The method of Claim 27, wherein the duration of exposure is sufficient for increasing the release rate of the active agent in a patient by 10% to 25% as compared to if the coating was not subjected to directing a beam of charged particles.

58. (New) The method of Claim 27, wherein the ion fluence of the charged particles is between about $10^3/cm^2$ to about $10^{16}/cm^2$.

59. (New) The method of Claim 27, further comprising exposing the coating to a gas while exposing the coating to the charged particles, wherein the gas is selected from the group consisting of hydrogen, SO_2 and oxygen.

60. (New) The method of Claim 27, wherein the implantable medical device is a stent.

61. (New) The method of Claim 33, wherein the charged particles create tracks that only penetrate through the barrier layer and stop at an upper surface of the dry coating.